STOCK & INDEX RELEASE NOTES

DECEMBER 2015 QUARTERLY UPDATE

These release notes pertain to the December 2015 Quarterly release of the CRSP US Stock and Index databases, shipped in January 2016.

COMING IN FEBRUARY!

In response to high subscriber demand, four versions of the CRSP US Stock database will be available in SAS and ASCII formats.

| DATABASE NAME | CRSPACCESS DATABASE VOLUME LABELS | SAS AND Ascii volume Labels |
|--------------------------------------|---|-----------------------------------|
| 1925 US Stock & Index Database/Files | FIZ | SIZ |
| 1925 US Stock Database/Files | FAZ | SAZ |
| 1962 US Stock & Index Database/Files | AXZ | SXZ |
| 1962 US Stock Database/Files | A6Z | S6Z |
| CRSP 1925 Historical Indexes | IFZ | SFZ |

WHAT IS INCLUDED IN THE FLAT FILES?

The flat-file versions of the database include all of the underlying data items stored in CRSPAccess, but for size and efficiency considerations, do not include any of the ts_print/TsQuery available derived items like excess returns.

Index versions of the database include end-of-day values for the CRSP US Total Market Index since going "live" on April 1, 2011.

Contact CRSP for details and more information. Email support@crsp.chicagobooth.edu or call 312-263-6400, Option 2.

DECEMBER 2015 DATA EDITS

GROUP EDITS

| BEGDT | ENDDT | DESCRIPTION |
|----------|----------|--|
| 19901218 | 20150923 | Changed distribution codes for 27 securities to accurately reflect distribution frequency. Edits were made for distributions |
| | | with ex-dates from 1990-2015 |

INDIVIDUAL EDITS

| PERMNO | COMPANY NAME | DESCRIPTION | BEGDT | ENDDT |
|--------|---------------------------|--|------------|------------|
| 86051 | A X T INC | Changed shares outstanding to 15690 from 3062 for 19980521- 19980629 | 5/21/1998 | 6/29/1998 |
| 14819 | ADVISORSHARES TRUST | Changed company name to ADVISORSHARES TRUST from1ADVIDORSHARES TRUST for 20151102-present1 | | 12/31/2015 |
| 15776 | ANAVEX LIFE SCIENCES CORP | Changed shares outstanding to 31126 from 77243 for 20151028 -20151228 | 10/28/2015 | 12/28/2015 |
| 14799 | CALAMOS E T F TRUST | Changed company name to CALAMOS E T F TRUST from CALAMOS E T F TR for entire history | | |

| PERMNO | COMPANY NAME | DESCRIPTION | BEGDT | ENDDT |
|--------|-------------------------------------|--|------------|------------|
| 15418 | CONCORDIA HEALTHCARE CORP | Changed sharecode from 11 to 12 for entire history. | 6/29/2015 | 12/31/2015 |
| 15366 | ELKHORN E T F TRUST | Changed company name to ELKHORN E T F TRUST from ELKHORN ETF TRUST for entire history | | |
| 92985 | FIRST TRUST EXCHANGE TRADED FUND | Changed company name to FIRST TRUST EXCHANGE TRADED FUND from FIRST TRUST EXCHANGE TRADED FD for entire history | | |
| 15719 | FOUR CORNERS PROPERTY TRUST | Share Code changed to 11 from 18 for entire history. | | |
| 15281 | GLOBAL X FUNDS | Changed company name to GLOBAL X FUNDS from GLOBAL X FD for entire history | | |
| 15389 | GLOBAL X FUNDS | Changed company name to GLOBAL X FUNDS from GLOBAL X FD for entire history | | |
| 15492 | GLOBAL X FUNDS | Changed company name to GLOBAL X FUNDS from GLOBAL X FUND for entire history | | |
| 14727 | ISHARES TRUST | Changed company name to ISHARES TRUST from ISHARES TR for entire history | | |
| 14730 | ISHARES TRUST | Changed company name to ISHARES TRUST from ISHARES TR for entire history | | |
| 14732 | ISHARES TRUST | Changed company name to ISHARES TRUST from ISHARES TR for entire history | | |
| 76799 | N T L INC | Changed shares outstanding to 21280 from 6675 for 19931006 -19931013 | 10/6/1993 | 10/13/1993 |
| 15583 | PRINCIPAL EXCHANGE TRADED FUNDS | Changed company name to PRINCIPAL EXCHANGE TRADED FUNDS from PRINCIPAL EXCHANGE-TRADED FUNDS for entire history | | |
| 15853 | R M R GROUP INC | Changed shares outstanding to 15000 from 7500 for entire history | | |
| 82241 | TEMPLETON RUSSIA FUND INC | Changed delisting code from 470 to 450 on 20151120 and added a final distribution of \$10.12860 on ex-date 20151123. | 11/20/2015 | 11/20/2015 |
| 87017 | THINKPATH INC | Changed shares outstanding to 2778 from 1100 for 19990602- 19991230 | 6/2/1999 | 12/30/1999 |
| 65429 | TRINITY PLACE HOLDINGS INC | Added zero name line to reflect off exchange activity from 20111115 to 20151221. | | 12/21/2015 |
| 15503 | VICTORY PORTFOLIOS II | Changed distribution code from 1242 to 1232 on exdate 20150922. | | 9/22/2015 |
| 19502 | WALGREENS BOOTS ALLIANCE INC | Changed name from WALGREEN BOOTS ALLIANCE INC to WALGREENS BOOTS ALLIANCE INC for 20141231-present | 12/31/2014 | 12/31/2015 |
| 13922 | WISDOMTREE TRUST | Changed company name to WISDOMTREE TRUST from WIDSOMTREE TRUST for 20150831-present | 8/31/2015 | 12/31/2015 |

NOVEMBER 2015 DATA EDITS

GROUP EDITS

| BEGDT | ENDDT | DESCRIPTION |
|----------|----------|--|
| 20141202 | 20141202 | Updated closing bid and ask prices for over 2500 securities on 20141202. |

INDIVIDUAL EDITS

| PERMNO | COMPANY NAME | DESCRIPTION | BEGDT | ENDDT |
|--------|------------------------------|--|------------|------------|
| 80424 | MILLS CORP | Changed SIC code to 6798 from 2000 for 2004809-20040817 | 8/9/2004 | 8/9/2004 |
| 50614 | WINTHROP REALTY TRUST | Changed distribution code from 1232 to 2245 on ex-dates 20141231 and 20150605. | 12/31/2014 | 12/31/2014 |
| 91964 | OCEAN POWER TECHNOLOGIES INC | Changed CUSIP on date 20151029 from date 20151028. | 10/28/2015 | 10/28/2015 |
| 14324 | R O I ACQUISITION CORP II | Changed end date to 20151026 with delist code of 450 along with a distribuion code of 2255 for \$10 on 20151030. | 10/26/2015 | 10/26/2015 |
| 90951 | HERCULES OFFSHORE INC | Added zero nameline edit to reflect off-exchange activity for88/24/2015-11/8/2015.8 | | 8/24/2015 |
| 15387 | ACCUSHARES COMMODITIES TR I | Changed CUSIP to 00439V78 from 00439V81 for 20151023-present | 10/23/2015 | 11/30/2015 |
| 15388 | ACCUSHARES COMMODITIES TR I | Changed CUSIP to 00439V79 from 00439V82 for 20151023-present | 10/23/2015 | 11/30/2015 |

OCTOBER 2015 DATA EDITS

| PERMNO | COMPANY NAME | DESCRIPTION | BEGDT | ENDT |
|--------|-------------------------------|--|------------|------------|
| 78701 | DOMINION DIAMOND CORP | Changed distribution code from 1232 to 1242. | 4/8/2015 | 4/8/2015 |
| 12592 | XTANT MEDICAL HOLDINGS INC | Added zero name line for 4/9/2015 - 8/5/2015 to reflect off-exchange 4. activity. | | 8/5/2015 |
| 15359 | TALLGRASS ENERGY GP LP | Changed distribution code from 1222 to 1232 | 7/29/2015 | 7/29/2015 |
| 14996 | CENTRUE FINANCIAL CORP NEW | Added zero nameline to relfect off-exchange activity for 06/24/11 - 6 10/25/15 | | 10/25/2015 |
| 82848 | TITAN PHARMACEUTICALS INC DEL | Added zero nameline edit to reflect off-exchange activity for period 12/26/08 - 10/11/15 | 12/26/2008 | 10/11/2015 |
| 89741 | OPTIMUMBANK HOLDINGS INC | Added zero nameline edit to reflect off-exchange activity for 10/13/2015 | 10/13/2015 | 10/13/2015 |

FILE VERSION SPECIFICS

This table contains version specific information for the CRSP Stock Files with data ending December 2015. It contains the number of securities and information about the maximums of the event arrays.

| FILE CODE | # OF Securities | MAX Names | MAX Dists | MAX Shares | MAX DELISTS | MAX Groups | MAX NASDIN | FIRST Permno | LAST Permno |
|--------------|--------------------|--------------|--------------|---------------|----------------|---------------|---------------|-----------------|----------------|
| DAZ | 31248 | 39 | 1538 | 2144 | 1 | 4 | 2569 | 10000 | 93436 |
| MAZ | 31219 | 39 | 1538 | 2144 | 1 | 4 | 2569 | 10000 | 93436 |

| CALENDAR | DATE RANGE | DATE INDEX Range |
|------------------------------|-------------------|---------------------|
| Daily trading calendar | 19251231-20151231 | 1-23787 |
| Month-end trading calendar | 19251231-20151231 | 1-1081 |
| Year-end trading calendar | 19251231-20161230 | 1-92 |
| Quarter-end trading calendar | 19251231-20161230 | 1-365 |
| Weekly trading calendar | 19260102-20151231 | 1-4696 |

CRSPACCESS PRODUCT INFORMATION

To simplify installation for our subscribers, data are bundled into product groups. Information relevant to each product group is listed in the table below.

| PRODUCT NAME | DATABASE | SIZE | INDEXES | PORTFOLIOS | COMPONENTS & DESCRIPTION |
|--|-----------|---------|---|----------------|---|
| CRSP 1925 US Stock and Index Database | FIZyyyymm | 4.0 GB | All CRSP indexes and portfolio assignments | All portfolios | DI - 1925 Daily US Stock & Index Database MI - 1925 Monthly US Stock & Index Database IF - CRSP Supplemental US Indexes |
| CRSP 1925 US Stock | FAZyyyymm | 3.6 GB | CRSP NYSE/ AMEX/ NASDAQ Value- weighted Market, CRSP NYSE/ AMEX/ NASDAQ Equal-weighted Market, S&P 500 Composite, NASDAQ Composite | | DA - 1925 Daily US Stock MA - 1925 Monthly US Stock IN - CRSP Limited US Indexes |
| CRSP 1962 US Stock | A6Zyyyymm | 3.2 GB | CRSP NYSE/ AMEX/ NASDAQ Value- weighted Market, CRSP NYSE/ AMEX/ NASDAQ Equal-weighted Market, S&P 500 Composite, NASDAQ Composite | | D6 - 1962 Daily US Stock M6 - 1962 Monthly US Stock IN - CRSP Limited US Indexes |
| CRSP 1962 US Stock and Index Database | AXZyyyymm | 3.5 GB | See FIZ | All portfolios | DX - 1962 Daily US Stock & Index Database MX - 1962 Monthly US Stock & Index Database IF - CRSP Supplemental US Indexes |
| CRSP 1925 US Indexes | IFZyyyymm | 120 MB | | | IF - CRSP Supplemental US Indexes |
| CRSP/Compustat Merged Database | CMZyyyymm | 8.86 GB | | | CM - Compustat Data formatted in CRSPAccess Database |
| Daily & Monthly Treasuries in CRSPSift | TRZyyyymm | 266 MB | | | TR - Database format for use with CRSPSift |
| Daily & Monthly Treasuries Files | TFZyyyymm | 1.67 GB | | | TF - Expanded daily and monthly files in EXCEL, SAS, and ASCII formats |
| Mutual Fund Database | MFZyyyymm | 10 GB | | | MF - Mutual Funds |
| CRSP/Ziman Daily & Monthly REIT | RAZyyyymm | 238 MB | | | RD - Daily REITs RM - Monthly REITs |

DELIVERY METHOD, INSTALLS, AND DATA FORMATS

DELIVERY

CRSP data delivery for all products is available only through the Cloud, utilizing IPSwitch's MOVEit Cloud product. (https:// crsp.moveitcloud.com)

If you have not yet accessed your account, or need assistance, contact support@crsp.chicagobooth.edu, or call 312-263-6400, Option 2.

While DVDs are no longer available from CRSP, you are welcome to create your own once you have downloaded the data, and use as long as you have an active license to do so.

ZIP INSTALLS

CRSP uses a zip process for data installation. ZIP utilities that are standard on all platforms should work to unzip the databases. On Windows computers, CRSP recommends using 7-ZIP, which can be downloaded from this site: http://www.7-zip.org/

Several important items to note follow:

- All directories are extracted to lower case letters. For example: C:\crspdata\miz201308
- All Windows Users: Extracting a zipped file does not create an installed program in Windows. It will not show in the Windows Control Panel. When uninstalling the data, just delete the directories that contain the detailed files
- Red Hat Linux Users: If your version of Red Hat is earlier than 6.0, you will need to install an updated version of the "File Roller" program in order to install the data

ZIP FILE STRUCTURE AND PROCESS

Windows 7/XP Products:

| PRODUCT LABEL | PRODUCT NAME | FILE NAME |
|-----------------|------------------------------|--------------------|
| A6Z1_yyyymm_SLD | CRSP 1962 US Stock | a6zyyyymm_cadb.zip |
| AXZ1_yyyymm_SLD | CRSP 1962 US Stock and Index | axzyyyymm_cadb.zip |
| FAZ1_yyyymm_SLD | CRSP 1925 US Stock | fazyyyymm_cadb.zip |
| FIZ1_yyyymm_SLD | CRSP 1925 US Stock and Index | fizyyyymm_cadb.zip |
| IFZ1_yyyymm_SGD | CRSP 1925 Indexes | ifzyyyymm_cadb.zip |

Red Hat Linux Products:

| PRODUCT LABEL | PRODUCT NAME | FILE NAME |
|-----------------|------------------------------|--------------------|
| A6Z1_yyyymm_SLD | CRSP 1962 US Stock | a6zyyyymm_cadb.zip |
| AXZ1_yyyymm_SLD | CRSP 1962 US Stock and Index | axzyyyymm_cadb.zip |
| FAZ1_yyyymm_SLD | CRSP 1925 US Stock | fazyyyymm_cadb.zip |
| FIZ1_yyyymm_SLD | CRSP 1925 US Stock and Index | fizyyyymm_cadb.zip |
| IFZ1_yyyymm_SGD | CRSP 1925 Indexes | ifzyyyymm_cadb.zip |

Solaris SPARC Products:

| PRODUCT LABEL | PRODUCT NAME | FILE NAME |
|-----------------|------------------------------|---------------------|
| A6Z1_yyyymm_SBD | CRSP 1962 US Stock | a6zyyyymm_sparc.zip |
| AXZ1_yyyymm_SBD | CRSP 1962 US Stock and Index | axzyyyymm_sparc.zip |
| FAZ1_yyyymm_SBD | CRSP 1925 US Stock | fazyyyymm_sparc.zip |
| FIZ1_yyyymm_SBD | CRSP 1925 US Stock and Index | fizyyyymm_sparc.zip |
| IFZ1_yyyymm_SGD | CRSP 1925 Indexes | ifzyyyymm_sparc.zip |

STEPS TO INSTALL:

- From the directory containing your downloaded zip file, right click (in Windows) or run File Roller (in Red Hat and Solaris)
- Set the extract destination to the current higher level directory where data is normally stored and unzip will add the rest of the path (default is C:\ in Windows or /home in Red Hat and Solaris)
- For example, in Windows, extracting to C:\ will install the data under C:\crspdata

Contact CRSP Client Services for assistance at: support@crsp.chicagobooth.edu or call 312-263-6400, Option 2.

SETTING ENVIRONMENT VARIABLES

The zip process will not automatically set environment variables for use with command line tools. The following steps will do so.

NOTE: CRSPSift does not use and therefore does not require environment variables.

LINUX AND SUN SOLARIS

NOTE: The new zip installs are now saving to directories with lower case letters - for example, ~/crspdata/diz201308

Check the current state of the environment variables by entering this command: env | grep crsp

- If you have admin privileges on your machine, open the .profile file, and make updates to the following lines to update the paths for the new data installed:
 - CRSP_DSTK=<full path name>/<daily stock directory> (*example:* CRSP_DSTK=~/crspdata/diz201308)
 - CRSP_MSTK==<full path name>/<monthly stock directory> (example: CRSP DSTK=~/crspdata/miz201308)
 - CRSP_IND=<full path name>/<index directory> (example: CRSP IND=~/crspdata/ifz201308)
- If you are using the bash shell (or any Bourne-style shell), enter the same commands above and export each one. This will make changes for your current session only and does not save to the .profile file.
- A shell script is available to make changes that can be reused for each update done. Note that this will only make changes to your current session and does not save to the .profile file.
 - Navigate to where the CUPL tools are loaded and then enter: cd accbin
 - Start the script by entering: ./crsp_setup.sh
 - The script will prompt for the following:
 - File name (*will be appended with*.kshrc)
- Top level directory (this should be where CUPL tools are located (*example:* ~/crsp)
- Scratch directory for error messages name can be anything
- Enter path for daily stock directory (*example:* ~/crspdata/diz201308)
- Enter path for monthly stock directory (*example:* ~/crspdata/miz201308)
- Enter path for index directory (*example:* ~/crspdata/ifz201308)
- Enter path for CCM directory enter to leave blank
- Enter path for CST directory enter to leave blank
- Execute script by running: . ./<file name created above>.kshrc (note there is a space between the two dots)

WINDOWS:

The CRSP Client Environment utility provides users a way to check the location of the software and to set environment variables. The utility can be started by locating it under installed programs CRSPAccess/CRSP Client Environment, or by navigating to the /accbin folder where the CUPL tools are installed and running: Client_Environment.exe (screen shot is displayed below). After making any changes, be sure to log off and back into Windows for the settings to be saved.

Note: For subscribers of the CRSP Compustat Merged database, additional CCM database environments will be displayed for the location of the Compustat data.

| CRSP Root | |
|---|----------------|
| CRSP Root Directory This folder/directory contains the CRSP root subfolders that will allow the to function property. | CRSP utilities |
| C:\orsp\ | Browse |
| CRSP Work | |
| CRSP Work Directory This folder/directory is used for storage of temporary files, log files and cor subfolders that may hold user created files | ntains |
| C:\orsp\ | Browse |
| CRSP Daily Stock | |
| CRSP Daily Stock Database Directory | |
| C:\crspdata\diz201308 | Browse |
| CRSP Monthly Stock | |
| CRSP Monthly Stock Database Directory | |
| C:\crspdata\miz201308 | Browse |
| CRSP Compustat CCM | |
| CRSP Compustat CCM Database Directory | |
| C:\crspdata\CMZ201308\ | Browse |
| | |
| Administrator privileges are required to set system level Do | Remove Exit |